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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/938,915	08/24/2001	Stepan Sokolov	SUN1P840/P6721	3300

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EXAMINER	
KENDALL, CHUCK O	

ART UNIT	PAPER NUMBER
2122	

DATE MAILED: 08/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/938,915	SOKOLOV, STEPAN	
	Examiner	Art Unit	
	Chuck Kendall	2122	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 August 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to the application filed 08/24/01.

2. Claims 1 – 20 have been examined.

Specification Objection

The use of the trademark Java has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 -20, contains the trademark/trade name Java TM. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade

name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe a load constant command and, accordingly, the identification/description is indefinite.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1, 4 & 5 are rejected under 35 U.S.C. 102(e) as being anticipated by Grove USPN 6,205,578 B1.

Regarding claim 1, Grove anticipates a Java computing environment, a Java macro instruction representing:

a sequence of Java Bytecode instructions in a Java programming loop (10:5 – 10);

wherein said Java macro instruction can be executed by a Java virtual machine operating in said Java computing environment (7:50 – 53), and

wherein, when said Java macro instruction is executed, the operations that are performed by said conventional sequence of Java Bytecode instructions are performed (8:1-10).

Regarding claim 4, a Java macro instruction as recited in claim 1, wherein said Java virtual machine internally represents Java instructions as a pair of streams (8:1 – 10, see bytecode stream, instruction and additional data from bytecode).

Regarding claim 5, a Java macro instruction as recited in claim 4, wherein said pair of streams includes a code stream and a data stream (8:1 – 10, see bytecode stream, instruction and additional data from bytecode), wherein said code stream is suitable for containing a code portion of said Java macro instruction, and wherein said data stream is suitable for containing a data portion of said Java macro instruction (8:1 – 10).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2, 3 & 6 –20 are rejected under 35 U.S.C. 103(a) as unpatentable over Grove USPN 6,205,578 B1 as applied in claims 1 & 5 in view of O'Connor et al. USPN 6,026,485.

Regarding claim 2, Grove discloses all the claimed limitations as applied in claim 1 above. Grove doesn't explicitly disclose wherein Java Bytecode includes a

conventional conditional flow control instruction. However, Grove does implement the Java bytecode using for loops, which utilize controlled parameters to execute properly (10:5 – 10). O'Connor in an analogous art discloses prioritizing traps in the execution stage by using control flow instructions to branch (10:32 – 35). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Grove and O'Connor because, control flows enable programs to be prioritized or tailored for certain instances.

Regarding claim 3 Grove discloses all the claimed limitations as applied in claim 1 above. Grove doesn't explicitly disclose wherein the Java macro instruction is generated during the Java Bytecode verification phase. O'Connor discloses in an analogous art that " Operands must be operated on by operators appropriate to their type. It is illegal, for example, to push two integers and then treat them as a long. This restriction is enforced, in the Sun implementation, by the bytecode verifier ". Therefore it would have been obvious to one or ordinary skill in the art at the time the invention was made to combine Grove and O'Connor because, using the verifier would ensure proper implementation of the code.

Regarding claim 6, Grove discloses all the claimed limitations as applied in claim 5 above. Grove doesn't disclose a Java macro instruction wherein said Java macro instruction is generated only when said virtual machine determines that said Java macro instruction should replace said sequence, he does mention being able to point to other instructions during instruction execution 8: 5 – 10. O'Connor in an analogous art does on the other hand disclose the use of quick variants which supports writes for updates (replacing) various instructions, also that the above mentioned step could be done by self modifying code (16:53 – 17:5). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Grove and O'Connor because, being able to replace and modify code would make the system more modifiable.

Regarding claim 7, as applied above per claim 6 O'Connor, further discloses a Java macro instruction as recited in claim 6, wherein said determination is made based on a predetermined criteria (O'Connor, 17:53 – 56).

Regarding claim 8, as applied above per claim 7 O'Connor, further discloses a Java macro instruction as recited in claim 7, wherein said predetermined criteria is whether said sequence has been repeated more than a predetermined number of times (44: 10 -15, see catch clause).

Regarding claim 9, Groove anticipates, in a Java computing environment, a Java macro instruction representing:

a sequence of Java Bytecode instructions in a Java programming loop (10: 8, see "for" loop), wherein said sequence of Java Bytecode instructions are in a reduced set of virtual machine instructions suitable for execution in a virtual machine, the reduced set of virtual machine instructions representing a number of corresponding Java Bytecode executable instructions that are also suitable for execution in the virtual machine, wherein the set of the virtual machine instructions consists of a number of virtual machine instructions which is less than the number of the corresponding Java Bytecode executable instructions, and wherein every one of the corresponding Java Bytecode executable instructions can be represented by at least one of the virtual machine instructions in the virtual machine instruction set (9: 64 – 10: 10, see eliminating one of the jumps, reducing branches, executing within a for loop and improved performance).

Regarding claim 10, which is the instruction version of claim 3, see rationale as previously discussed above.

Regarding claim 11, which is the instruction version of claim 6, see rationale as previously discussed above.

Regarding claim 12, which is the instruction version of claim 7, see rationale as previously discussed above.

Regarding claim 13, which is the instruction version of claim 8, see rationale as previously discussed above.

Regarding claim 14, a Java macro instruction as recited in claim 9, wherein the number of virtual machine instructions is about 30 to 50 percent of the number of the

corresponding Java Bytecode executable instructions (9: 64 – 10: 10, see eliminating one of the jumps, which is about half by estimation or 50%).

Regarding claim 15, which is the computer readable media version of claim 9, see rationale as previously discussed above.

Regarding claim 16, which is the computer readable media version of claim 3, see rationale as previously discussed above.

Regarding claim 17, which is the computer readable media version of claim 6, see rationale as previously discussed above.

Regarding claim 18, which is the computer readable media version of claim 7, see rationale as previously discussed above.

Regarding claim 19, which is the computer readable media version of claim 8, see rationale as previously discussed above.

Regarding claim 20, which is the computer readable media version of claim 14, see rationale as previously discussed above.

Correspondence Information

Any inquires concerning this communication or earlier communications from the examiner should be directed to Chuck O. Kendall who may be reached via telephone at (703) 308-6608. The examiner can normally be reached Monday through Friday between 8:00 A.M. and 5:00 P.M. est. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Dam can be reached at (703) 305-4552. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

For facsimile (fax) send to 703-7467239 official and 703-7467240

draft

Chuck O. Kendall

Software Engineer Patent Examiner

WEI Y. ZHEN
PRIMARY EXAMINER